

**PERFORMANCE WORK STATEMENT**  
**STREAMS II**  
**Task Order 0009, Tetra Tech EP-C-11-037**

**TITLE:** Infectious Carcass Disposal Pretreatment Feasibility Study

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**PERIOD OF PERFORMANCE:** April 11, 2014 through July 11, 2015

**PURPOSE OF WORK ASSIGNMENT**

The work will involve: evaluating the feasibility of grinding infectious carcasses on the farm without releasing pathogens to the environment; treating the ground material to inactivate pathogens or otherwise stabilize it (as appropriate) in a manner suitable for landfilling or rendering; and loading the treated material into appropriate vehicles for transport to disposal.

**BACKGROUND**

The Department of Homeland Security (DHS) is committed to using cutting edge technologies and scientific talent in our quest to make America safer. DHS's Science & Technology (S&T) Directorate is tasked with researching and organizing the scientific, engineering and technological resources of the United States and leveraging these existing resources into technological tools to help protect the homeland.

EPA is designated a coordinating Agency, under the National Response Framework, to prepare for, respond to, and recover from a threat to public health, welfare, or the environment caused by actual or potential oil and hazardous materials incidents. Hazardous materials include chemical, biological, and radiological substances, whether accidentally or intentionally released. EPA is also designated a support Agency, to support the U.S. Department of Agriculture's (USDA's) Animal and Plant Health Inspection Service (APHIS) activities in agricultural emergency response. EPA is also a lead agency under Section 208 of the Food Safety Modernization Act (FSMA) and is tasked under the FSMA to develop model plans for protecting the nation's food and agricultural infrastructure in such a way to protect human health and the environment.

As identified in Homeland Security Presidential Directives (HSPDs) on Defense of United States Agriculture and Food (HSPD-9) and Biodefense for the 21st Century (HSPD-10), mechanisms for protection of critical infrastructure are fundamental components as part of any comprehensive strategy for biodefense. Focused development and deployment of technologies to foster

proactive protection, response and recovery is necessary to protect against any significant infectious disease threat. In the case of high-consequence livestock pathogens, these tools play a crucial role in the preventative, mitigation and recovery phases of an outbreak.

This Performance Work Statement (PWS) describes the requirements for addressing an identified gap related to disposal of infectious large animal carcasses in the event of a foreign animal disease outbreak. Addressing this gap will enable APHIS, and the entire agricultural response community, to more effectively respond to a Foreign Animal Disease (FAD) outbreak in the US, should one occur.

The work will involve: evaluating the feasibility of grinding infectious carcasses on the farm without releasing pathogens to the environment; treating the ground material to inactivate pathogens or otherwise stabilize it (as appropriate) in a manner suitable for landfilling or rendering; and loading the treated material into appropriate vehicles for transport to disposal.

As part of this effort, EPA will consult with DHS S&T and develop a workgroup (the "Workgroup") composed of the TOCOR, the DHS S&T representative, and a number of available subject matter experts who are willing to provide information to the Contractor on various carcass disposal issues should the need arise. The Workgroup will also be used by EPA to review deliverables from the Contractor.

## **DETAILED TASK DESCRIPTIONS**

### **Task 1                      Development of a Quality Assurance Project Plan**

The contractor shall comply with all requirements as delineated on the "Quality Assurance Planning Requirements Form (QARF)" included with this extramural action. The contractor shall prepare a QAPP in accordance with <http://www.epa.gov/quality/qs-docs/r5-final.pdf> or based on the type of research that is being conducted. For guidance on preparing a research-specific QAPP, the preparer should refer to the project specific requirements provided in NHSRC's QMP. The QAPP must be approved prior to the start of any data collection and analysis work. Additional information related to QA requirements can be found at [www.epa.gov/quality](http://www.epa.gov/quality).

**Task 1 Deliverable:** The contractor shall submit a Draft QAPP to EPA 10 days after TO award. EPA will review the Draft QAPP and provide comments back to Contractor within 10 days. The revised QAPP will be submitted to EPA for final approval within one (1) month after TO award.

### **Task 2                      Literature Review**

The contractor shall identify, collect, evaluate, and summarize all available articles, reports, guidance documents, regulations and other pertinent information related to pre-treatment for transport of infectious carcasses for disposal by rendering or permitted landfill. The Workgroup will provide the Contractor information that is already known to be available for this task at the project kickoff meeting (to be held prior to final approval of QAPP). EPA will give the Contractor the necessary information and the Contractor shall collect any additional published or interview information needed to fill any information gaps identified by The Workgroup. The Contractor

shall then analyze the information. The information gaps will be discussed with the TOCOR and DHS S&T representative.

**Task 2 Deliverable:** The literature review will be transmitted to the TOCOR in the form of a memo with an attached Excel file that lists references and any annotations. The contractor shall also provide an EndNote library with the relevant fields filled in within two (2) months after QAPP approval. EPA will provide comments on the literature review within two (2) weeks after receipt of the draft memo, spreadsheet, and library. The contractor shall revise the information addressing EPA's comments within two (2) weeks after receipt of EPA's review.

### **Task 3 Identify and Screen Alternatives**

The Contractor shall develop up to five (5) alternatives for feasibility evaluation in accordance with EPA guidelines for performing feasibility studies

(<http://www.epa.gov/superfund/policy/remedy/pdfs/540g-89004-s.pdf>), as applicable. The development process should include:

- Develop Pretreatment Objectives
- Develop General Pretreatment Actions
- Identify Volumes or Amounts of Media
- Identify and Screen Pretreatment Technologies and Process Options
- Evaluate Process Options
  - Effectiveness
  - Implementability Evaluation
  - Cost Evaluation
- Assemble Alternatives
- Screen Alternatives
  - Define Alternatives
    - Specific Objectives
    - Define Media and Process Options
  - Screening Evaluation
    - Effectiveness Evaluation
    - Implementability Evaluation
    - Cost Evaluation
    - Innovative Technologies
  - Alternative Screening
    - Guidelines for Screening
    - Selection of Alternatives for Detailed Analysis

**Task 3 Deliverable:** A draft report detailing the five alternatives along with a PowerPoint presentation with relevant information will be delivered to EPA seven (7) months after TO award. EPA will share the results of Task 3 with the Workgroup and provide comments back to the Contractor within two (2) weeks after receiving the deliverable. The Contractor shall address EPA's comments and provide a final version of the report within two (2) weeks after receipt of EPA's comments. The deliverable shall also be accompanied by a face-to-face meeting in Washington DC with the TOCOR and DHS S&T within two (2) weeks after receiving the deliverable.

#### **Task 4                      Assess Feasibility of Alternatives**

Within two (2) weeks after receiving the Final Screening Report, EPA and DHS S&T will decide on up to three (3) potential technologies to perform a detailed analysis. The Contractor shall assess these selected alternatives for feasibility studies. The following process should be used depending on which alternatives are identified for analysis by EPA:

- Define Alternatives to be Assessed
- Outline Evaluation Criteria
- Analyze Each Alternative Individually
  - Overall Protection of Animal Health and the Environment
  - Compliance with regulatory requirements
  - Long-Term Effectiveness and
  - Reduction of Toxicity, Mobility, or Volume Through Treatment
  - Short-Term Effectiveness
  - Implementability
  - Cost
  - Regulatory Agency Acceptance
  - Community Acceptance
- Present Individual Analyses
- Compare Alternatives
- Present Comparative Analysis
- Recommend Preferred Alternative(s)

**Task 4 Deliverable:**    The Task 4 deliverable is due to EPA four (4) months after the Identification of Alternatives for Detailed Analysis in the form of a draft report suitable for EPA peer review and publication. The methods, results, and summary of the screening report from Task 3 will be included in this report, including a description of how the technologies from the initial screening report were down-selected to the options for the full feasibility studies. EPA will review the draft and provide comments within 30 days to the Contractor for incorporation into the report. During this period, EPA will share the results of Task 4 with the Workgroup and include the Workgroup's comments into EPA's comments when provided to the contractor. The deliverable will also be accompanied by a face-to-face meeting in Washington DC with DHS S&T within two (2) weeks after receiving the deliverable. The final Detailed Analysis report is due 15 months after TO award.

#### **TASK ORDER SCHEDULE**

<i><b>Deliverable</b></i>	<i><b>Schedule</b></i>
QAPP Draft	10 days after award
QAPP Final	1 month after award
Project Kickoff Meeting	Prior to final approval of QAPP
Literature Review Draft	3 months after award
Literature Review Final	4 months after award
Draft Screening Report & PowerPoint Presentation	7 months after award
Status Meeting in DC	7.5 months after award
Comments to Contractor from EPA	7.5 months after award

Final Screening Report	8 months after award
Alternatives for Detailed Analysis Identification	8.5 months after award
Detailed Alternatives Analysis Draft	12.5 months after award
Detailed Alternatives Analysis Final	15 months after award

# ORDER FOR SUPPLIES OR SERVICES

PAGE 1 OF 14 PAGES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 04/11/2014		2. CONTRACT NO. (If any) EP-C-11-037		6. SHIP TO: a. NAME OF CONSIGNEE CPOD	
3. ORDER NO. 0009		4. REQUISITION/REFERENCE NO. PR-ORD-14-00698			
5. ISSUING OFFICE (Address correspondence to) CPOD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268				b. STREET ADDRESS US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD	
				c. CITY Cincinnati	e. ZIP CODE 45268
7. TO: (b)(4)				f. SHIP VIA	
a. NAME OF CONTRACTOR TETRA TECH EM INC				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 1881 CAMPUS COMMONS DRIVE SUITE 200 (b)(4)				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY RESTON		e. STATE VA	f. ZIP CODE 201911519		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE CPOD	

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT Destination	
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
a. INSPECTION Destination	b. ACCEPTANCE Destination				

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Tax ID Number: (b)(4) DUNS Number: Infectious Carcass Disposal Pre-treatment Feasibility Study TOPO: Paul Lemieux Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(i) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$156,464.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center Mail Drop D143-02 109 TW Alexander Drive						\$161,148.90
c. CITY Durham			d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL	

22. UNITED STATES OF AMERICA BY (Signature)

04/11/2014

Camille W. Davis

ELECTRONIC SIGNATURE

23. NAME (Typed)

Camille W. Davis

TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 04/11/2014	CONTRACT NO. EP-C-11-037	ORDER NO. 0009
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Admin Office: CPOD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268</p> <p>Accounting Info: 13-14-CR-2640X25-401F72XPC-2532-26A6A-14264B E018-001 BFY: 13 EFY: 14 Fund: CR Budget Org: 2640X25 Program (PRC): 401F72XPC Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 14264BE018-001 Period of Performance: 09/14/2011 to 08/31/2016</p> <p>Infectious Carcass Disposal Pre-treatment Feasibility Study Award Type: Cost-plus-fixed-fee Total Estimated Cost: (b)(4) Fixed Fee: (b)(4) Completion Form</p> <p>Period of Performance: 04/11/2014 to 07/13/2015</p> <p>The obligated amount of award: \$156,464.00. The total for this award is shown in box 17(i).</p>				156,464.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$156,464.00